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Apr 23, 1986

DERWENT-ACC-NO: 1986-107872

DERWENT-WEEK: 198617

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TITLE: Powdered, free-flowing ammonium poly:phosphate flame-retardant - microencapsulated in suspension with polyurethane formed by reacting poly:isocyanate and poly:hydroxy cpd.

INVENTOR: STAENDEKE, H

PRIORITY-DATA: 1985DE-3526965 (July 27, 1985), 1984DE-3438097 (October 18, 1984)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> EP 178554 A	April 23, 1986	E	024	
<input type="checkbox"/> CA 1258010 A	August 1, 1989		000	
<input type="checkbox"/> DD 239800 A	October 8, 1986		000	
<input type="checkbox"/> DE 3526965 A	April 24, 1986		000	
<input type="checkbox"/> DE 3560455 G	September 17, 1987		000	
<input type="checkbox"/> EP 178554 B	August 12, 1987	G	000	
<input type="checkbox"/> ES 8605562 A	September 1, 1986		000	
<input type="checkbox"/> JP 61098721 A	May 17, 1986		000	
<input type="checkbox"/> KR 9306472 B1	July 16, 1993		000	C09K021/04

INT-CL (IPC): C08G 18/08; C08J 9/00; C08K 3/32; C08K 9/10; C08L 75/04; C09K 21/04

ABSTRACTED-PUB-NO: EP 178554A

BASIC-ABSTRACT:

Flame-proofing compsn. consists, by wt., of: (A) 75-99.5% free-flowing, powdery ammonium polyphosphate having formula (I):

$H(n-m)+2(NH_4)mPnO_3n+1$ (I)

n=integer having average value 20-800 (450-800); m:n=1, and (B) 0.5-25 (2-15)% reaction prod. obtd. by the polyaddn. of a poly-hydroxy cpd. and a polyisocyanate, provided with the polyurethane formed surrounds the individual particles of (I). The average particle size of the micro-encapsulated (I) is 0.01-0.1 (0.03-0.06) mm.

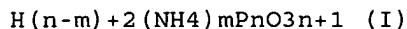
$0.01 \text{ mm} = 10 \mu\text{m}$

ADVANTAGE - The compsn. is used for flame-proofing polyurethanes, esp. polyurethane foams. The content of the compsn. in the polyurethane foam is 5-25 wt.%, w.r.t. the amt. of the polyol component of the polyurethane. The micro-encapsulated (I) resists

hydrolysis. Encapsulation appreciably reduces the solubility of (I) in water. E.g. a micro-encapsulated (I) contg. 7.9% polyurethane contained 3.7% water-soluble proportions at 25 deg. C and 10.4% water-soluble proportions at 60 deg. C, as against 8.2- and 62% respectively without micro-encapsulation. Coating further improves heat-stability.
ABSTRACTED-PUB-NO:

EP 178554B EQUIVALENT-ABSTRACTS:

Flame-proofing compsn. consists, by wt., of: (A) 75-99.5% free-flowing, powdery ammonium polyphosphate having formula (I):



n=integer having average value 20-800 (450-800); m:n=1, and (B) 0.5-25 (2-15)% reaction prod. obtd. by the polyaddn. of a poly-hydroxy cpd. and a polyisocyanate, provided with the polyurethane formed surrounds the individual particles of (I). The average particle size of the micro-encapsulated (I) is 0.01-0.1 (0.03-0.06) mm.

ADVANTAGE - The compsn. is used for flame-proofing polyurethanes, esp. polyurethane foams. The content of the compsn. in the polyurethane foam is 5-25 wt.%, w.r.t. the amt. of the polyol component of the polyurethane. The micro-encapsulated (I) resists hydrolysis. Encapsulation appreciably reduces the solubility of (I) in water. E.g. a micro-encapsulated (I) contg. 7.9% polyurethane contained 3.7% water-soluble proportions at 25 deg. C and 10.4% water-soluble proportions at 60 deg. C, as against 8.2- and 62% respectively without micro-encapsulation. Coating further improves heat-stability.

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